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accompanying drawings. In the drawings, like reference numerals indicate like structures or method steps and the leftmost digit of a reference numeral indicates the number of the figure in which the referenced element first appears (for example, the element 120 appears first in Figure 1).

5 Figure 1 is a functional block diagram of one embodiment of a system for designing and manufacturing masks;

Figures 2A and 2B are simplified graphical representations of a representative reticle and a mask in accordance with a conventional arrangement of reticles on a mask;

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10 Figures 2C through 2<sup>H</sup> are simplified graphical representations of a conventional method for synthesizing probes on a substrate, and then dicing the substrate to provide probe arrays, using one or more masks of the conventional type shown in Figure 2B;

15 Figures 3A through 3F are simplified graphical representations of a method for synthesizing probes on a substrate, and then dicing the substrate to provide probe arrays, using one or more masks, each of which has reticles used in separate synthesis steps;

20 Figures 4A through 4E are simplified graphical representations of another method for synthesizing probes on a substrate, and then dicing the substrate to provide probe arrays, using one or more masks, each of which has reticles used in separate synthesis steps;

25 Figure 5C is a simplified graphical representations of one embodiment of a mask having substantially contiguous reticle areas (a representative of which is shown in greater detail in Figure 5B) made up of substantially contiguous reticles (a representative of which is shown in greater detail in Figure 5A);

Figures 6A through 6C are simplified graphical representations of another embodiment of a mask having substantially contiguous reticles and reticle areas;

30 Figures 6D through 6H are simplified graphical representations of one embodiment of a method for synthesizing probes on a substrate, and then dicing the substrate to provide probe arrays, using one or more masks such as those of Figures 6A through 6C;

Figures 6I and 6J are simplified graphical representations showing aspects of the substrate of Figures 6E through 6H in greater detail;

Figure 6K is a simplified graphical representation of yet another embodiment of a mask having substantially contiguous reticles and reticle areas, and Figures 6L and 6M are